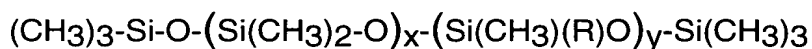
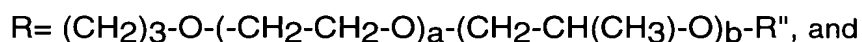


ABSTRACT OF THE DISCLOSURE

A method for making a rigid polyurethane foam by reacting a polyisocyanate and a polyol in the presence of a urethane catalyst, a blowing agent and a silicone surfactant characterized by employing a blowing agent comprising a C4 or C5 hydrocarbon, or mixtures thereof, with an average molecular weight of ≤ 72 g/mole and a boiling point in the range of 27.8 to 50 °C, and a silicone surfactant comprising a polyether-polysiloxane copolymer represented by the following formula:



where



where R" is H, $(\text{CH}_2)_z\text{CH}_3$, or C(O)CH_3 ; $x + y + 2$ is 60-130; x/y is 5 - 14; z is 0-4; the total surfactant molecular weight, based on the formula, is 7000 - 30,000 g/mole, the wt% siloxane in the surfactant is 32 - 70 wt%, the blend average molecular weight (BAMW) of the polyether portion is 450 - 1000 g/mole, and the mole% of ethylene oxide in the polyether portion is 70 - 100 mole%.

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